Growing Vegetables By Family

(and other gardening shortcuts)

Cicada

Contents:

Introduction 2

A Note On When To Plant 3

A Note On Sun Exposure 4

A Note On Watering 5

Cool Weather Crops:

Alliums: The Onion Family 6

Amaranthums: The Beet Family 7

Apiums: The Carrot Family 8

Asters: The Lettuce Family* 9

Brassicas: The Broccoli Family 10

** plus peas + broad beans

Warm Weather Crops:

Cucurbits: The Squash Family 11

Legumes: The Bean Family** 12

Poales: The Corn Family 13

Solanums: The Tomato Family 14

A Note On Soil Preparation 15

A Note On pH 17

What Is A Vegetable? 18

* plus yacon + sunchoke

Introduction

Most of the plants we grow for food can be grouped into a couple dozen families. Members of the same family have similar needs, growth habits, pollinators, pests, diseases, and other traits. In some cases, the diversity of foods within a plant family is mostly natural, while in others, it's entirely man made. For example, humans bred wild mustard into dozens of shapes, from broccoli, to rocket, to bok choy - these are the brassicas.

Meanwhile, the solanums had some natural diversity - eggplants, potatoes, tomatoes, peppers - which was multiplied by human intervention. In this zine, I'll show you a different perspective that will help you grow the nine most popular vegetable families. I hope you'll find these shortcuts to gardening success useful in your quest, as you reduce your reliance on capitalist and colonial systems of food production.

A Note On When To Plant:

It can be overwhelming trying to follow planting calendars, but there's a general rule of thumb that makes it easy to guess.

If you want your food plant to flower and set fruit or grain, start growing it in spring - e.g. tomatoes (solanums), pumpkin (cucurbits), corn (poales), beans (legumes). Broad beans and all types of peas are an exception to this rule - they do better when it's cooler.

If you live in a tropical climate, you can grow warm season crops all year round.

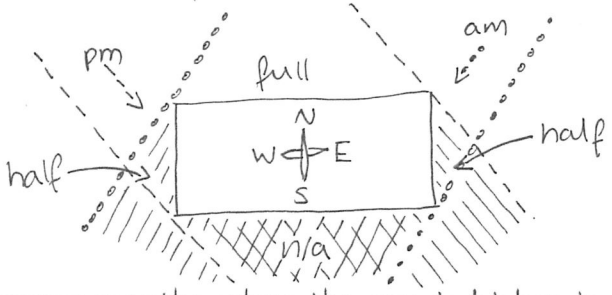
If you want the plant for its tender leaves, juicy stems, or flavoursome roots, start growing it in autumn - e.g. garlic (alliums), radish (brassicas), lettuce (asters), celery (apiums), beetroot (amaranthums) - and harvest before flowering occurs. There are a couple of exceptions to this rule in the aster family.

Flowering is brought on by warm weather and drier conditions. It turns leaves bitter and drains the energy from tubers and bulbs, making the non-fruiting parts of the plant tough and unpalatable. It is often the final stage of a plant's life cycle, which means you won't get another harvest when it's done.

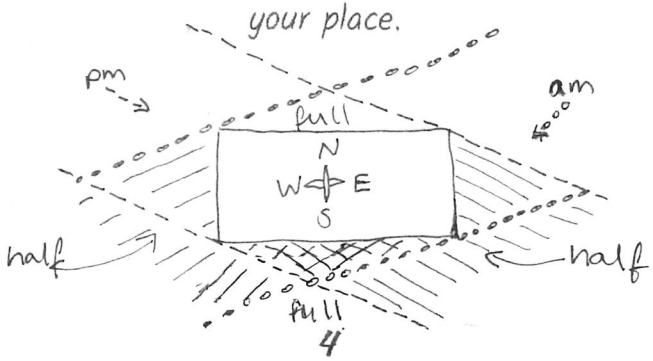
If you live in a cold climate, frost might kill your tender greens. Plant out a second round in August.

A Note On Sun Exposure:

Before you choose a spot to plant, try to get an idea of how much sun exposure different areas of your garden get, and match each zone with the needs of your plants. In the cooler months, a north-facing spot (against a wall or fence) will be in full sun, while eastern and western aspects will have partial or "half" sun, and southern aspects will receive little to no sun.



In the warmer months when the sun is higher in the sky, all aspects will receive longer hours of sun, including south-facing gardens, which will receive partial sun. A garden bed in an open area will always get full sun, unless it's shaded by a big tree - take those into account when you map out the sun exposure at your place.

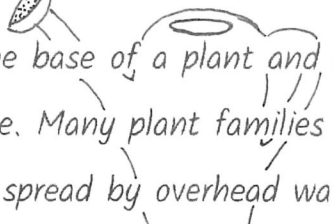


A Note On Watering:

In the warmer months, most plants only need to be watered once a day, but those with higher water needs would appreciate being watered twice. Any more than that is too much - it's important for the soil surface to dry out just enough to allow the roots to breathe air each day. Water the garden deeply outside of the hottest part of the day - before 9am and after 5pm, and then leave it alone during warmest hours. The leaves of some plants will wilt temporarily to better cope with the heat - don't panic and water them while it's hot, they will bounce back when it cools down. Wet leaves can suffer burns in the hot sun.

During the cooler months, water every other day, at a time that suits you - depending on the weather. A decent rain shower will allow you to skip watering, while windy weather dries the soil out more, and should be your cue to water the garden a little bit extra.

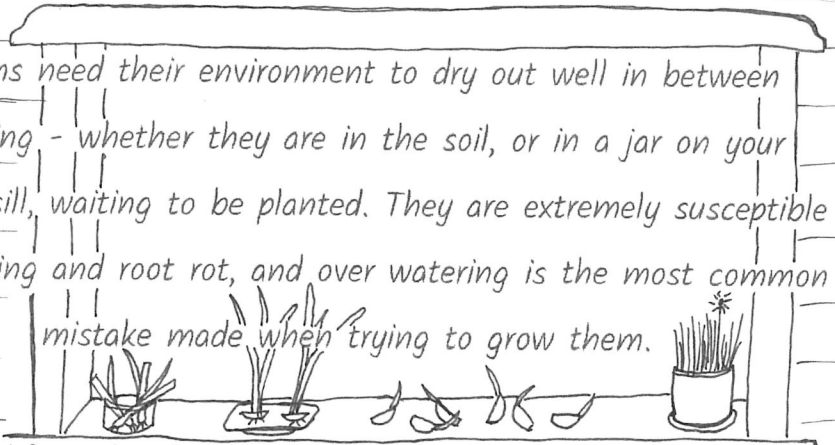
It's best practice to aim for the base of a plant and avoid watering the leaves if possible. Many plant families are susceptible to diseases that are spread by overhead watering.



Alliums : The Onion Family

Onions - Chives - Leeks - Garlic - Spring Onions - Shallots

Plants in this family have an onion scent when broken. The bulbs, leaves and flowers are edible. They grow best in the cooler months and are happy in full or partial sun.



Alliums need their environment to dry out well in between watering - whether they are in the soil, or in a jar on your window sill, waiting to be planted. They are extremely susceptible to drowning and root rot, and over watering is the most common mistake made when trying to grow them.

The life cycle of an allium usually ends after it flowers. Trimming the leaves and flower stem back to the ground before flowering will renew the plant and allow it to live for another season - a useful hack for chives and spring onions. It also means you can regrow alliums from any off-cuts that have roots.

Planting alliums throughout the garden helps to repel harmful insects and attract pollinators, especially if you allow a few of them to flower.

Amaranthums: The Beet Family

Beetroot - Silverbeet - Chard - Spinach - Amaranth

Plants in this family are known for their iron- and protein-rich leaves, and sugary roots. The roots, stems, leaves, and seeds are edible, but some will be more palatable than others depending on which family member you're growing.

Amaranthums are very forgiving and easy to care for. They'll do well in full or partial sun, as long as the weather is cool and they're given plenty of water. They won't flower until the peak of summer, giving you a nice harvest through spring.

Their tissues are often brilliant colours - from yellow to red to purple - due to the presence of antioxidant and anti-inflammatory carotenoids and anthocyanins. Amaranth is often grown for its vibrant flowers, and it yields tasty, protein rich seeds that can be prepared in a number of ways.

Beetroot and spinach are ready in less than two months, and are great for filling shady spaces underneath or in between larger plants. The tender leaves of both can be eaten raw.

-July

Apiums: The Carrot Family

Carrot - Parsley - Fennel - Parsnip - Celery - Dill

Plants in this family have crescent shaped, vascular stems and sweet, earthy flavours. The roots, stems, leaves, flowers, and seeds are edible, but some will be more palatable than others depending on which family member you're growing.

Apiums have sensitive roots - they don't like to be transplanted, so they're best sown directly where you want to grow them. Carrots and parsnips especially need nice, deep, loose soil to grow straight and long. An average amount of water and sun is plenty for apiums, they're not fussy as long as the weather is cool.

The leaves of all members of this family are rich in vitamins and minerals, and can be used to add a lovely earthy flavour to soups and stews. Try adding chopped carrot, celery, or parsnip leaves to slow cooked dishes instead of throwing them away.

Apiums are fragrant, and generous with their pollen. Leaving a few of them in the ground to flower all summer will attract countless beneficial insects to your garden.

-June

Asters: The Lettuce Family

Lettuce - Garland - Chicory - Sunchoke - Yacon

Plants in this family can have very diverse forms, but they all bear round, daisy-like flowers. All asters have edible flowers, and usually offer either crunchy, bitter leaves or sweet, earthy tubers.

Asters require an average amount of water, but when it comes to sun and season, there are two camps. Lettuce, garland and chicory will flower and go to seed when it's warm or too dry, ruining the harvest of leaves. They grow best when it's cool.

Meanwhile, sunchoke and yacon won't sprout until the weather warms up, and won't flower until they've reached considerable maturity. They grow tall during the summer - and should be cut down, if not harvested, in early autumn before flowering drains the edible tubers. Sunchoke has one type of tuber, for both eating and growing. Yacon has two types. Store the tubers you want to grow next year carefully over the winter, because they can easily dry out and die. The ground or an occasionally-watered pot is the safest place for them. You can also leave tubers you want to eat in the ground for freshness, and dig them up later.

April

Brassicas: The Broccoli Family

Broccoli - Cauliflower - Cabbage - Brussels Sprouts - Kohlrabi

Kale - Rocket - Mustard - Pak Choy - Turnip - Radish

Brassicas might be one of humanity's favourite vegetable families. Mildly bitter when raw, they become incredibly sweet and savoury when cooked. Each one was bred from wild mustard to highlight a particular part of the plant - root, stem, leaf, flower bud, or seed. All parts of brassicas are safe to eat.

Brassicas like an average amount of water and full to partial sun. As long as they're grown in cool weather, they'll give a good harvest. Most of them are quick growing, ready in a couple of months - except for the largest members, like cabbage, brussels sprouts, broccoli and cauliflower. The first two are ready at the end of winter, and the latter two in early spring when their flower buds appear. Watch these four carefully because flowers can appear very quickly, ruining the harvest.

I recommend eating the young leaves and tender flowering stems of all brassicas, and the fat green seed pods of radishes. Daikon radishes are the best for growing copious amounts of large pods.

Cucurbits: The Squash Family

Squash - Zucchini - Cucumber - Pumpkin - Melons - Luffa

Plants in this family take the form of vines with large yellow flowers and even larger fan-shaped leaves. The fruits, seeds, leaves, and flowers are edible (minus the reproductive parts).

Cucurbits need warm weather, full sun, and plenty of water. Pumpkins and melons need to mature on the vine until it has died back. Luffa can be harvested green, or left to dry out on the vine. Squash, zucchini, and cucumber can be harvested whenever you like. I like to make pickles from all of them in autumn, using the little baby fruits with unopened flower buds attached. Big cucurbit flowers can be stuffed with cheese and herbs, battered and fried - a good use for the male flowers which appear on their own for a while, before the female flowers.

Most cucurbits can climb, aided by twisting tendrils. Giving them support will keep them off the ground, which helps to prevent the mildew that they are very susceptible to. This disease is encouraged by getting water on the leaves. Affected leaves should be cut off and thrown away to slow down the infection.

Legumes : The Bean Family

Beans - Peas - Broad Beans - Lentils - Soybeans - Peanuts

Plants in this family produce edible pods with protein-rich seeds inside. Their leaves, flowers and shoots are also edible. Legumes help to improve soil nutrition and boost their neighbours' growth. They achieve this by harbouring bright pink nitrogen-fixing bacteria inside nodules on their roots. These bacteria take nitrogen from the air and convert it into a form that plants can use to build protein.

Legumes have an average need for water and can thrive in full or partial sun. Most of them grow best in the warmer months - except for broad beans and all types of peas (inc. snow peas, sugar peas, and chickpeas), which favour being sown in autumn.

Always sow legumes directly into the ground or into large, deep pots. Their root systems develop quickly in the first week of life, reaching deep into the soil, and it's too easy to leave them too long and cause them to be stunted - or otherwise damage them in the process of transplanting. Never, ever buy or bother with legumes in seedling pots - it's a waste of your money and time.

Poales: The Corn Family

Corn - Sugarcane - Lemongrass - Pineapples

Plants in this family are all considered to be grasses - even pineapples, which are bromeliads. There's a great deal of diversity among the poales - other foods in this family include rice, wheat, oats, bamboo, and water chestnuts.

Poales prefer warm weather, full sun, and plenty of water. When planting corn, sow seeds in a group of at least five. This is important because poales are wind pollinated - and in the case of corn, poor pollination equals kernels missing from your cobs. The male flowers drop pollen from above, onto the female "silks" of the ears below. Allowing for pollination from neighbours on all sides yields better results than planting corn in a row.

Growing corn is an opportunity to employ a scientific technique invented by Native American peoples called The Three Sisters - simply sow one or two bean seeds at the base of each half-grown corn plant, and sow squash seeds here and there. The corn supports the beans, the beans fix nitrogen, and the squash shades the soil. It's a relationship of mutual benefit.

Solanums: The Tomato Family

Tomato - Capsicum - Chili - Eggplant - Tamarillo - Potato

This family of plants, also known as the nightshades, offer a few savoury fruits and starchy tubers from a plethora of poisonous relatives. Many of their tissues contain toxic levels of solanine. This is not a clan that you want to experiment with eating unusual parts of.

All solanums prefer warm weather, full sun, and plenty of water. When growing solanums for their fruits, you can plant seedlings deeper in the soil than they were in their original pot - this causes more roots to emerge from the stem and make the plant stronger. Then, once the plant produces its first flower, keep all leaves and branches trimmed off the main stem from that point down. This prevents fungal spores from splashing up from the soil to the leaves, and directs the plant's energy into the fruits on the main stem, giving you a better harvest.

When growing potatoes, you can get a bigger harvest by burying the stem with compost and mulch as it gets taller - you can just make a big heap, or use some kind of cage to support it.

A Note On Soil Preparation:

It's not necessary to spend money on manufactured fertiliser, and ready made potting mixes are never good enough for growing vegetables - at best they can be used in a soil mix as an organic material filler.

For best results, you want to mix up a blend of the following:

~ 50% dirt - not potting mix - dirt from the ground, or that you can buy in bags from the landscape supply shop.

~ 10% composted manure - dirt that you buy might have it mixed in (you'll know from the smell). Otherwise, adding chook or rabbit manure to your compost bin or buying composted manure from the hardware store works well. Manure from horses, cattle, and sheep can contain a lot of seeds and will require you to do more weeding later on.

~ 20% compost - keeping a compost bin makes this part free - but you can also buy it, sometimes from the council waste centre.

~ 20% loose organic material and/or sand - potting mix could be used for this fraction, even old potting mix that's already been used. I like to use coconut coir from the shop, but you could also

mix in perlite or coarse sand. This keeps the soil well draining.

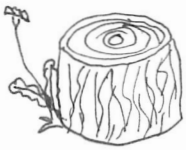
If you do a half decent job of bringing these elements together, you will get a wonderful season of growth without needing to add any fertiliser, and get far better value for money than potting mix alone. Topping up your soil once or twice a year with some more compost and composted manure will keep it productive. Don't forget to cover your soil with mulch to suppress weeds, retain moisture, and protect the microbiome from the drying and sterilizing effect of the sun - however you should sow seeds in bare ground and then mulch lightly after they emerge.

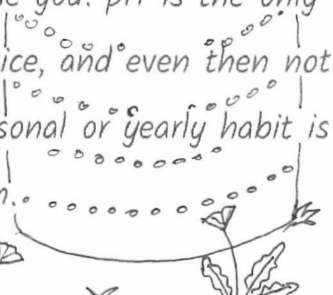
Your main goal is to keep your soil alive and thriving with micro-organisms that help to make nutrients bio-available. This yields better results in the long run than adding mined and manufactured chemical compounds to "dead" potting mix or exposed dirt. We can make some very educated guesses at why the latter methods are sold to us by the horticulture and agriculture industries, but they aren't sustainable. Those methods set us up for failure and keep us dependent on capitalist and colonial systems of land exploitation and food distribution.

A Note On pH:

Over time, the pH or acidity of soil increases, due to the mild acidity of rain water, compost, and manure - not to mention the strong acidity of manufactured fertilisers. When the soil becomes acidic, some nutrients ionise and are chemically "locked away". This means plants can't access them - they are not bio-available. Acidity can also affect the texture of the soil and how well it can hold water. If you've done everything else right, but you suspect a nutrient deficiency or your soil seems hard, sandy, poorly draining, or water resistant, you can neutralise or "sweeten" it by adding a thin layer of wood ash from the fire (an outdoor fire is best), or a few handfuls of calcitic lime from the shop. It's possible to have a runaway situation of very rich soil that is too acidic to be useful, especially if you only try to fix soil issues by adding more compost and manure.

You can buy a test kit or a meter to guide you. pH is the only parameter I bother testing in general practice, and even then not very often - sweetening your soil as a seasonal or yearly habit is generally good enough.





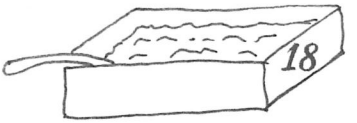
What Is A Vegetable?

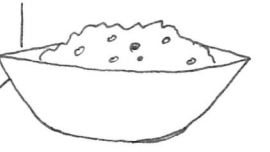
At some point while reading this zine you may have asked yourself, "So what is a vegetable anyway?". And that's a good question, because many of the foods that we refer to as vegetables (and grains) are actually fruits.

After years of asking myself this question, I came across the answer. A fruit has a scientific definition. There are many kinds of fruits - berries (like eggplants), drupes (like avocados), pepos (like pumpkins), caryopses (like corn), legumes (like peas) - but we rarely use those labels correctly when we talk about food. A vegetable only has a culinary definition, not a scientific one. So vegetables are vegetables because we call them that when we share them with each other.

Have more questions about gardening? You can email me at cicadaseedlings@gmail.com

Want to get involved with Food Not Bombs in Wollongong? Contact us at foodnotbombs.gong@gmail.com or via socials.





Food Not Bombs logo designed by Keith McHenry and colored by Sue Eaton.
Vector graphic drawn by AquitaneHungerForce